

CHARLES RIVER DATA SYSTEMS, INC.

HINTS AND KINKS FOR USE OF FLOPPY DISK DIAGNOSTICS

1. Prior to performing the Floppy Disk Diagnostics, the operator should review Paragraph 7.2.4 "Choosing Tasks", Paragraph 7.2.2 for the Top Level Test Menu and Paragraph 7.2.3 for the list of actual tests included in the Diagnostics. In addition, Paragraph 7.3 lists the commands available to the user to control the diagnostic procedures.
2. In the event the system fails to boot the operator can revert to ODT (Octal Debugging Technique) to determine basic system faults. The following simple procedure utilizes ODT for some basic system diagnostics:

- a) Operate ENABLE-HALT switch to HALT
- b) Depress the Boot switch (or DC ON/OFF switch)
- c) One or more 173000 <CR> <LF> "@" should appear and the LED indicators on both drives should flash once.

IF NOT:

- (1) Check that power is applied to the Computer
- (2) Check for correct location of Boards in the Computer. See appropriate unit instruction manual.
- (3) Check to see that the Serial Line Interface Board and the Terminal are set to the same baud rate . See DEC Micro Computer Interface Manual.
- (4) Ascertain that the cable from the floppy drives to the controller board are connected.
- (5) Ascertain that the Processor is set up to start at address 173000. See Micro Processor Handbook .
- (6) Check that the memory is set up properly. See appropriate memory configuration sheet.
- (7) Has the Bootstrap strap been installed on the FC20X?
- (8) Is more than one Bootstrap enabled?
- (9) Does the system have sufficient memory for the diagnostic program to execute. It requires at least 24K words.

The following information was obtained from a review of the files of the [redacted] and is being furnished to you for your information. It is to be understood that this information is being furnished to you in confidence and is not to be distributed outside of your office.

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- d) Perform the following Memory/Register tests using ODT:
 - a. Set HALT/ENABLE switch to HALT
 - b. Set LTC switch to OFF
 - c. Depress Boot Switch
 - d. Set HALT/ENABLE switch to ENABLE
 - e. Enter the following Program: (NOTE: Operator input or Register is underlined)

<u>Memory Location</u>	<u>Memory Content</u>	<u>Load Memory</u>	
4/	xx xx xx	6 <LF>	
6/	xx xx xx	0 <LF>	
10/	xx xx xx	1 00 1 1 <LF>	
12/	xx xx xx	2 0021 <LF>	
14/	xx xx xx	1 775 <LF>	
16/	xx xx xx	0 <CR>	
@ R0/	xx xx xx	0 <LF>	
R1/	xx xx xx	20 <CR>	
@ R7/	xx xx xx	10 <CR>	
@		P	Program Starts
@	xx xx xx		Program Stops
<u>R1/</u>	160000	CR	

NOTE: If the interactive program halts at Location 16, a memory failure has occurred. Check memory board for correct location settings. See DEC Microcomputer Handbook.

- e) For further use of ODT (Octal Debugging Technique) for running and debugging programs reference the DEC Microprocessor Handbook, page 78 for the LSI-11/23, page 117 for the LSI-11/2 and page 592 for ODT Differences: LSI-11/2 and LSI-11/23.
3. The Scratch Testing Diskettes referenced in Paragraph 7.1.3D must be good Diskettes that have been write Enabled (foil tape covering the write protect hole) and formatted. If unformatted diskettes are used, they may be formatted by selecting and performing para. 7.2.3 Test 12 "Format Test". (Select command 0 and then Test 12 in para. 7.2.2).

